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EXAMINER

SEMENENKO, YURIY

ART UNIT PAPER NUMBER

2841

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/724,299

Applicant(s)

CODILIAN, RAFFI

Examiner

Yuriy Semenenko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Upon further consideration a different interpretation of the Sakamoto reference has been determinate to better meet the limitations of Applicant's claims. The finality of the Office Action dated 06/30/2006 is hereby withdrawn. This Office Action is based on the above-mentioned new interpretation of the Sakamoto reference.

Response to Amendment

2. Amendment filed on 08/17/2006 had been entered.
Claims 1-6 and 16-20 are now pending in the application.

Response to Arguments

3. Applicant's arguments, see Remarks Made in an Amendment, filed 08/17/2006, with respect to the rejection(s) of claim(s) 1-6 and 16-20 under Sakamoto have been fully considered. Upon further consideration a different interpretation of the Sakamoto reference has been determinate to better meet the limitations of Applicant's claims and hereby a new rejection is made as follow.

Claim Objections

4.1. Claims 1-5 are objected to because of the following informalities:

Claims 1: the use throughout the claims of " adistance ..." make the claim language confusing because if applicant is referring to separation or the definite, specific geometric attribute of distance, then the phrase should be "the distance".

Claims 2-5 directly or indirectly depend upon claim 1 and inherit the same deficiency

Appropriate correction is required.

4.2. Claim 1, lines 3-5: It is unclear what kind of the edges define a first lateral distance in this phrase: "... opposing first and second edges defining a first lateral

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distance, the perimeter further including opposing third and fourth edges extending between the first and second edges and defining a first lateral distance...”

To apply prior art Examiner assumes the perimeter including opposing first and second edges defining a first lateral distance, the perimeter further including opposing third and fourth edges defining a second lateral distance.

4.3. Claims 16-20 are objected to because of the following informalities:

It is unclear “a pair of outer line segments disposed parallel to and spaced apart from two opposing ones of the inner line segments with the two opposing ones of the inner line segments being positioned between the pair of outer line segments”, because exist two perpendicular each other pair of the opposing ones of the inner line segments.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.1. Claims 1- 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1: The scope of the claim is indefinite. It is unclear where merely “...opposing first and second edges defining a first lateral distance,” or “... opposing third and fourth edges defining a first lateral distance,”.

Claims 2-6 depend directly or indirectly on claim 1 and have same deficiency.

To apply prior art Examiner assumes the perimeter including opposing first and second edges defining a first lateral distance, the perimeter further including opposing third and fourth edges defining a second lateral distance.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.1. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto et al. (PGPub # 2002/0050397) hereinafter Sakamoto.

As to claim 1: Sakamoto discloses in Fig. 1 a disk drive printed circuit board 11 (page 7, [0114]) for use with a disk drive electrical component 10, the disk drive electrical component 10, Fig. 1a defining a rectangular perimeter, Fig. 1a, the perimeter including opposing first and second edges defining a first lateral distance (see Fig. 1*, below), the perimeter further including opposing third and fourth edges extending between the first and second edges and defining a second lateral distance, Fig. 1*, the perimeter further including opposing corners defining a diagonal distance, Fig. 1*, the printed circuit board comprising: a board body 11, Fig. 1; a mounting surface disposed upon the board body; and component-dedicated alignment line indicators visibly disposed at the mounting surface for aligning the disk drive electrical component at the mounting surface (intended use) (component-dedicated alignment line indicators includes portions of the surface of the first and second insulating sheets P1 and P2, Fig. 2 (see also Fig. 2*, below)); the component-dedicated alignment line indicators including: first and second inner line segments (this two segments define the second opening portion 13,

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Fig. 1 (page 9, [0139]) spaced apart a first inner spacing at least the first lateral distance and less than the diagonal distance (see Fig. 1*, below); third and fourth inner line segments extending between and perpendicular to the first and second inner line segments (this two segments define the second opening portion 13, Fig. 1 is formed in the first insulating sheet P1 (page 9, [0139]), the third and fourth inner line segments spaced apart a second inner spacing at least the second lateral distance and less than the diagonal distance (Fig. 1*); and first and second outer line segments (this two segments define the first opening portion OP, Fig. 1 is formed in the second insulating sheet P2 (page 9, [0140]), the second opening portion 13, Fig. 1 disposed parallel to the first and second inner line segments with the first and second inner line segments between the first and second outer line segments, the first and second outer line segments spaced apart a first outer spacing more than the first inner spacing and less than the diagonal distance, Fig. 1*.

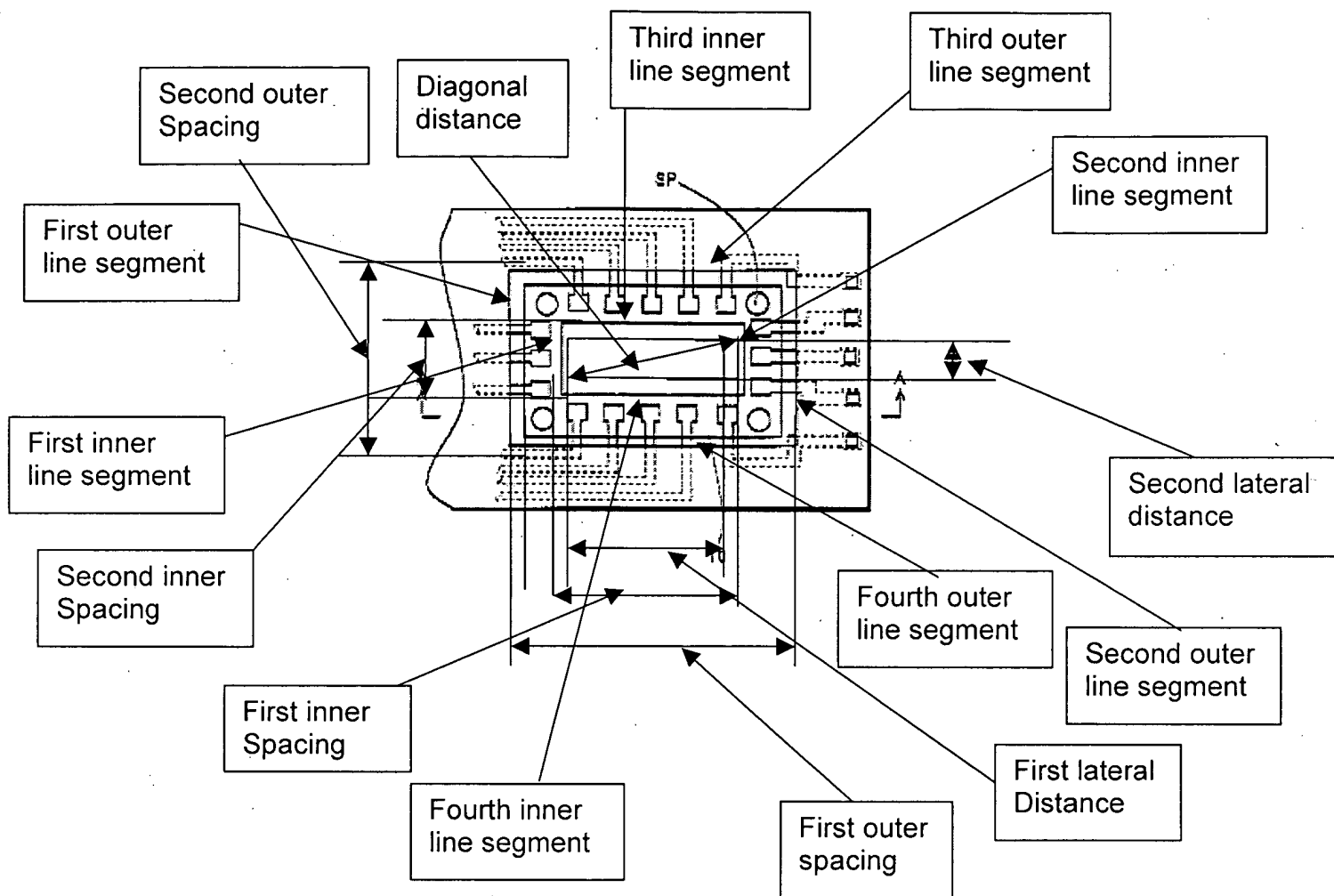


Fig. 1*

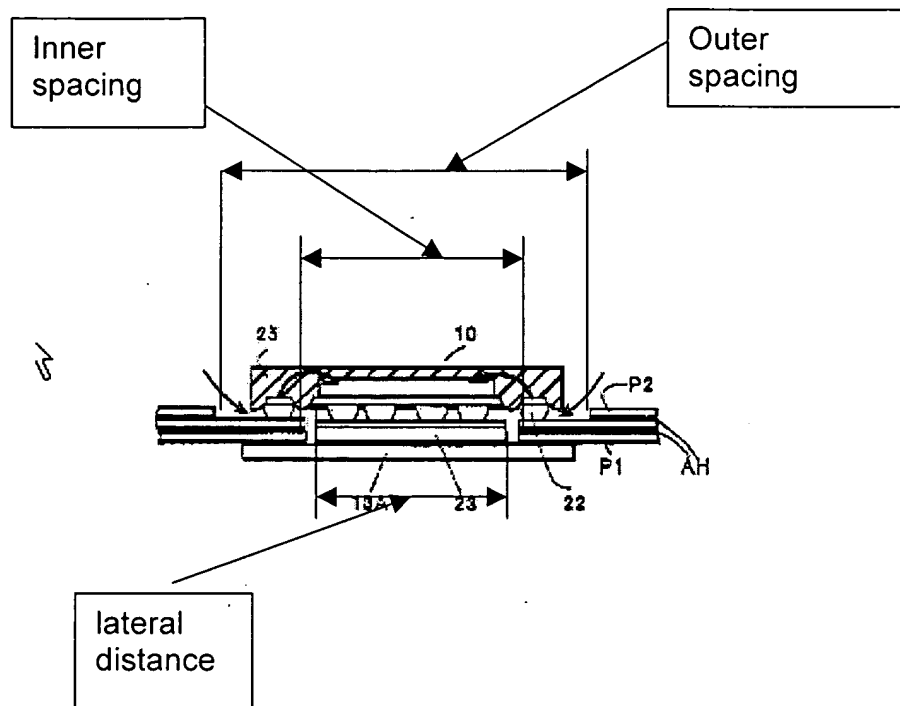


Fig.2*

As to claim 2: Sakamoto discloses in Fig. 1 the printed circuit board of Claim 1 wherein the third and fourth inner line segments intersect the first-and second inner line segments (Fig. 1*).

As to claim 3: Sakamoto discloses the printed circuit board of Claim 1 wherein the component-dedicated alignment line indicators (Fig. 1*) further includes a third outer line segment extending between and perpendicular to the first and second outer line segments, the third outer line segment is disposed with the third inner line segment between the third edge of the disk drive component and the third outer line segment, Fig. 1*.

As to claim 4: Sakamoto discloses the printed circuit board of Claim 3 wherein the third outer line segment intersects the first and second outer line segments, Fig. 1*.

As to claims 5 and 6: Sakamoto discloses the printed circuit board having all of the claimed features as discussed above with respect claim 1, wherein the component-dedicated alignment line indicators further includes third and fourth outer line segments extending between and perpendicular to the first and second outer line segments, the third and fourth inner line segments spaced apart a second outer spacing at least the second lateral distance and less than the diagonal distance, Fig. 1*, and wherein the third outer line segments intersect the first and second outer line segments, Fig. 1*.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7.1. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto in view of Bonin et al. (Patent #6798609) hereinafter Bonin.

As to claim 16: Sakamoto discloses (page 4, [0078] and Fig. 25) a hard drive circuit board for use with a disk drive electrical component 10, Fig. 1a with a rectangular mounting base, comprising: a board body 11, Fig. 1; a mounting surface on the board body; four inner line segments disposed upon the mounting surface, (see Fig. 1*, above), wherein the four inner line segments define a rectangle having a width and a

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length at least as large as a width and a length of the base of the electrical component, Fig. 1*; and a pair of outer line segments, Fig. 1* (first outer line segment and second outer line segment) disposed parallel to and spaced apart from two opposing ones of the inner line segments (first inner line segment and second inner line segment) with the two opposing ones of the inner line segments being positioned between the pair of outer line segments, Fig. 1*,

except Sakamoto doesn't explicitly teach a board body is a rigid board body.

Bonin teaches a board body is a rigid board body, Fig. 1 and 2.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made, for Sakamoto to include in his invention that a board body is a rigid board body to provide more accuracy of positioning electrical component.

As to claim 17: Sakamoto, as modified, discloses the printed circuit board having all of the claimed features as discussed above with respect claim 16, further comprising an additional pair of outer line segments (third outer line segment and four outer line segment, Fig. 1*) disposed parallel to and spaced apart from an additional two opposing ones of the inner line segments (third inner line segment and four inner line segment, Fig. 1*) other than the two opposing ones of the inner line segments, with the additional two opposing ones of the inner line segments being positioned between the additional pair of outer line segments.

As to claim 18: Sakamoto, as modified, discloses the printed circuit board having all of the claimed features as discussed above with respect claim 17 wherein the inner line segments and the outer line segments are visibly disposed on the mounting surface (Fig. 1*).

As to claim 19: Sakamoto discloses the printed circuit board having all of the claimed features as discussed above with respect claim 18. Although Sakamoto does not disclose the inner line segments and the outer line segments are applied to the mounting surface using silk screening, Examiner notes that a limitation "applied ... using

silk screening," is a process limitation in the product claim. Such a process limitation defines the claimed invention over the prior art only to the degree that it defines the product itself. A process limitation cannot serve to patentably distinguish the product over the prior art, in the case that the product is the same as, or obvious over, the prior art. See Product-by-Process in MPEP 2113 and 2173.05(p) and *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

As to claim 20: Sakamoto discloses the printed circuit board having all of the claimed features as discussed above with respect claim 16,

except Sakamoto doesn't explicitly teach the rectangle formed by the four Inner line segments is sized to circumscribe the based of the electrical component when the electrical component is centered within the four Inner line segments.

Bonin teaches in Fig. 3 the rectangle formed by the four Inner line segments is sized to circumscribe the based of the electrical component 24 when the electrical component 24 is centered within the four Inner line segments.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made, for Sakamoto to include in his invention that the rectangle formed by the four Inner line segments is sized to circumscribe the based of the electrical component when the electrical component is centered within the four Inner line segments to provide more accuracy of positioning electrical component.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571)- 272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YS

 3/21/07
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